RICK REASER

Please address all Correspondence to:

Monthly meetings of S.B.A.C.E. are held on the 4th Tuesday of each month at 7:30 PM at:

VFW
1865 Lomita Blvd.
Lomita, Calif.

Our esteemed officers are:

President	Gerald Bransford	213-325-6204
Vice President	Alan Haskell	213-542-0494
Secretary/Treasurer	James Jengo	213-378-5523
Librarian	Harry Koons	213-325-3745
Newsletter Editor	Sue Whitehead	

FROM THE EDITOR'S DESK:

This will be my last newsletter for S.B.A.C.E. so please send your articles for the newsletter to Gerry Bransford or Jim Jengo.
Sue W.
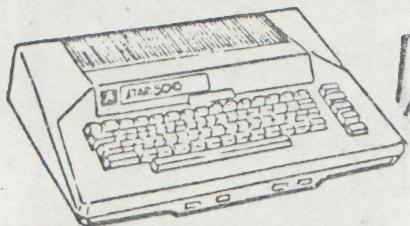
PREXY'S POSITS

by Gerald J. Bransford

The last several months have been among the most hectic and even painful of the four-plus years I've been in the Atari scene. Foreground for most of us was the necessity of moving and cutting the umbilicum with mother H.W. The trauma was reduced by the fortune of finding quarters such as the V.F.W. hall. The move opened up all sorts of new problems, however, many of which have yet to be addressed.

There have been great pluses and minuses to be had in the hectic swing of dealing with those crazies from Silicon Valley. We are now almost at the end of 1983 and the next year looks like its going to be another exciting one. I have a feeling, however, that our membership is going to drop off though and I'll want to address that at a future date. I want to look back now at the dizzy swing of the last year.

While we were at H. W. Electronics, we were constantly taking on new members. Many were there only to access the library and to move on (which they then did). This was not O.K. to another portion of our membership and they slowly drifted away. We also had several of what I call celebrity members. I am sorry when they leave as they contribute more than their notoriety, but most of them have moved on.

Our newsletter, while not among the front-runners, was (and continues to be) a "rag" to be proud of. The newsletter is an important element in our growth and I'm not talking about size. It should and will, with active management by the officers, become self-supporting. We have achieved some small amount of national attention at times when my acerbic comments, which have seriously bothered some of our members, were noted and commented upon by other newsletters, mostly in a positive vein. On the negative side, we can thank the chap in West L. A. with the case of terminal foot-in-mouth disease for his vicious and wholly fictitious libels. I doubt even now that he is aware of what a danger he put himself and his user-group in. We officers, and most of all Jim Jengo, put a fair amount of energy into countering his mischief.

I'm going to sound very critical of Atari's

past dealings with us, but for those of you in the user's group and those others within Atari, I say I love my Atari 800 and will not switch to Commodore or any other non-Atari 64K machine. All year, we've waited, sitting on our hands, while Atari played the blushing bride with their new line of equipment. As the rumors became facts and as bits of information came to our attention, we realized that Atari was up to their old tricks. Business as usual was, seemingly, to continue to fail the Atari users. At one point, I heard from Earl Rice that the 1450XLD represented Atari's response to the complaints and requests of the user groups. Soon after, I found that the new disk drives were "dual" density or 127 KBytes (where this term came from is a mystery to me), not double-density (186 KBytes). Next, a rumor had it that Atari was not even going to deliver the 1400XL or the 1450XLD. In fact, we still don't know. We were told about CP/M compatability in the new units and almost immediately were discouraged to hear that it only meant special Atari versions of some of the popular CP/M programs. Those of us who already had 800's or enhanced 400's were indeed fortunate as the new 1200XL quickly began to show its true colors. Many of the programs crashed, the luminance was not bright enough on many of the units and Atari insensitively had dropped the separate chroma output that gave the 800 such superior color resolution on a high quality color monitor. It was bad enough that we had to go to Atari's chief (and most damaging) competitor, Commodore for a high-resolution and reasonably priced monitor, but the Amdek monitors in the stores (at the time) only supported "composite" video, albeit superior to the R.F. pictures available to the 400. I do believe Amdek and some other color monitors now have added separate chroma. Atari still refuses to supply a monitor, in fact.

Atari seemed to be still doing "it" better (as the bumper stickers say). They have been rumored to have a program on disk that allows the 1200XL to operate on the old 800 OS. They have however said nothing to the owners of the 1200's and I think this attitude stinks to heaven especially since I found out from Alan Haskell that he got a copy from Atari but had some doubt as to whether he would get it soon, if at all. Atari sent it out immediately (Almost overnite-talk about tricky). Atari is stillplaying it cagy in dealing with us, their most loyal customers. I get very ANGRY! But (sigh!) this is nothing new to you members of SBACE who know me. Atari has reasons for much of the present hardware and software design that makes sense based upon their committment to the "dual" drive. It must be a real tiger-by-the-tail. I almost feel sorry for them, but...

Every morning I look through the L.A. Times financial section with a twinge of dread, expecting to see Atari's epitaph. But, like Rocky III, they keep coming off the ropes. No outside influences forced Warner to pack Atari's management with encyclopedia, used-car, cosmetics, and

other types of sales mentalities who didn't seem to understand that the Atari 400 and the 800 are computers and shouldn't be sold by the creation of an artificial market. In particular, many of the 400 owners not only were _really_ unaware that they had bought a computer, they wouldn't have wanted it if they had been dealt with honestly. I know. I've watched salesmen selling the 400 to customers as a better game machine than the 2600. (No lies here, but...) No 410 tape recorder or BASIC cartridge was proposed either, thus there was no way to use the 400 as a computer. I also talked with these customers later.

Well, the 600XL is in a few stores (mostly toy stores, unfortunately) and the 800XL, which is supposed to be there too, is not. I doubt that the mass market, which is drying up to the whole industry not just Atari (who seems to be so dependent on it), is going to come beating the doors down. If these new machines do sell, it will be mostly because the experienced users like us know that Atari can (and did) design and build a wonderful computer. Furthermore, they can again. If Atari goes belly-up, and I seriously doubt it will happen, there are many "third-party" companies who have a good market visibility and would find it feasible to continue to support the 400/800 market. Magazines such as Antic and A.N.A.L.O.G. give a very different (and much more real) picture of this market than does the L.A. Times sports section. The major trade magazines, exceptions being Softside, Compute!, and Creative Computing, seem to have shoveled dirt into Atari's grave.

I want very badly to see all four of the new XL/XLD machines in the stores. My real worry is that, all around us, the Atari computer has already been buried. Stores no longer wish to handle Atari hardware or Atari-compatible software, and articles don't even mention Atari in comparison studies. It is the role of the user group, and _the newsletter_ to keep alive the FACT that there are many thousands of Atari 800 computers out there. There are even many more thousands of Atari 400 computers being upgraded to 800 level. WE ARE ALIVE AND WELL!!.

Keep the faith brothers and sisters. We shall overcome!

What's GNU
by
James A. Jengo

- Everyone had a chance to see and use the NEW 800 XL computer at the last meeting ... if you have any positive or negative thoughts, please let me know as soon as possible.
- Don't forget to RENEW YOUR MEMBERSHIP ...next year promises to be a busy one with more activities, tutorials, 'flea markets'(swap meets), hardware and software demonstrations (we have already enjoyed having the Astra Disk people present their dual disk/double density system. We have also seen the Koala pad. This meeting we will see the new Microsota Adapta-Cartridge ROM/RAM programmable (with power-off memory)...it is reviewed elsewhere in this issue. BASIC XL will be demo'd also. We have also had the return of the great Chris Crawford in the form of Video Visits 2 & 3.
- The revised BASIC(B) I talked about in the last issue will probably no longer be issued because a newer revision (BASIC(C)) will possibly be available in February, 1984.
- We have joined forces with TORATARI thus increasing our number of members and our resources.
- Don't forget that our document library (including several copies of Atari Data Packs. and multiple volumes of newsletters from other Groups) can now be checked out and taken home!
- Some info on the XL computers regarding PORTB ($D301) BIT ASSIGNMENTS: bit 0=0:OS ROM disabled, RAM enabled;bit 0=1:OS ROM enabled; bit 1=0: BASIC enabled; bit 1=1:BASIC disabled, RAM enabled;bit 2=0:LED #1 on; bit 2=1:LED #1 off; bit 3=0:LED #2 on; bit 3=1:LED #2 off; bits 4,5,6: reserved for future use; bit 7=0: self test ROM enabled; bit 7=1: self test ROM disabled, RAM enabled. The memory region mapped to the self test ROM is from $5000 to $57FF. The memory region mapped to the OS ROM is from $C000 to $FFFF except for the region from $D000 to $D7FF which is always mapped to the hardware I/O chips (GTIA,POKEY,PIA,ANTIC). For example, to reenable BASIC from machine language after having turned it off: ...LDA PORTB; AND #$FD; STA PORTB ...
- Special thanks to McCormick Computer Systems for donating the "Ali Baba" program for our raffle:

McCormick
Computer
Systems

"THE EDUCATIONAL COMPUTER CENTER"

Joseph A. McCormick

2943 Rolling Hills Road
Torrance, California 90505   (213) 530-8864

- If you have any friends (I should hope you do) who would be interested in joining our Group but cannot make it to a meeting but would like to receive the Newsletters, have access to the public domain disk and literature library and take advantage member's discounts, they may fill out the following coupon (or a copy of it) and send it to me with a check for one (or more) year's dues ($20. regular; $12. if in high school or younger; $30. for a family membership). Please send this information to my address on the front page of the Newsletter.

- -

NAME:

ADDRESS:

CITY/STATE:
ZIP:

PROGRAMMING LANGUAGES (and expertise(novice,interm.,expert)):

SPECIAL INTERESTS (communications,business,games,science,Ham radio, education, music, etc.):

- Our first "swap meet" will be at the February, 1984 meeting ...
  bring any hardware or software program you may have purchased
  earlier but can now get along without (!) and either trade it or
  sell it to some lollipop (?).
- Start thinking of candidates for Club officers ...voting is
  scheduled for the March, 1984 meeting.
- Program to print inverse and graphics characters in your program
  listings to your Epson MX80 with Graftrax; also how to build a
  power transient filter: Eugene ACE, Dec. 1983 newsletter.
- A disk is available from Atari (called the TRANSLATOR, to load
  the 400/800 Operating System into the XL computers so that they
  will run some of the commercial software that doesn't run on
  these new computers.
- Maybe Atari will again choose to build and release the 1400 &
  1450 XLD computers. Atari will probably not come out with the
  IBM compatable, Apple compatable, multi-processor computer.
- Will Phillips buy Atari from Warner Communications ?
  Atari says they will still stay in the computer business.
- More corrections and information on the Atari Macro Assembler.
  Also, a program to convert DATA PERFECT files to DOS format
  (by Norm Draper Dal-ACE): in CURRENT NOTES, Dec. 1983.
- Summary of Epson FX-80 printer commands: Lompoc/S.M. Dec.1983.
- Two comparisons of the Commodore-64 with the Atari computers:
  both good and bad points listed. A brief review of ACTION! ?? the
  original Atari 800 team is back and working on a new computer
  based on the 68000 chip set (as used in LISA), along with custom
  sound and graphics chips. by John Carmody, H.A.C.E. Dec. 1983.
- Percom update. FORTH version of a software printer interface(
  eliminates need for the 850). Some interesting hardware mods
  you might dream of making to your system. Review of the ATR 8000
  interface. ABACUS, Nov. 1983.
- Atari has signed a deal with Synapse to market SYN-FILE+, SYN-TREND,
  and SYN-CALC. OKC, Nov. 1983.
- Program lister allowing you to specify column width and prints
  inverse, etc. For NEC and Prowriter. PACE Nov. 1983.
* A responsible reply from the president of the West L.A. Group
  regarding his previous article implying suboptimal behavior of
  our Group ...Apology accepted! We would be happy to get together
  any time to see if our Groups can work together towards mutual
  goals!!   West L.A. Dec. 1983.
- To print to the printer instead of the screen: Poke 838,166:Poke
  839,238 (to change back:Poke 838,163:Poke 839,246(or SYS RESET).
  From Assembler: C346<A6,EE for printer; and C346<A3,F6 for screen.
  Coldstart from BASIC:A=USR(58484);Warmstart:A=USR(58487)
  From Gary Hitchcock, Huntsville AUG, Nov. 1983.
- Review of disk copyguarding techniques: Current Notes, Nov. 1983
- Review of Deep Blue C compiler by APX.ACTION review.HACE Nov. 1983.
- Load & run a binary file from BASIC: OPEN #1,4,0,"D:FILENAME.OBJ":
  X=USR(5576). From Atari Club of OKC, Oct. 1983.

ADAPTA-CARTRIDGE: A Review by James A. Jengo

   Talk about a fantastic, versatile product that will appeal to all levels
of computer users! This product has so much to offer that I have just
barely scratched the surface. Therefore this review will be a brief
introduction, with a more comprehensive review in the next issue.
   Two cartridges are available: for left slot (A:), right slot (B:).
As the abbreviation implies, these cartridges can appear to the computer
as separate devices (A: and B:)and, as such, can be written to or read
from, just as you would use D: for disk, E: for screen, P: for printer,
C: for cassette, etc. Each cartridge contains 8K of pre-programmed ROM
(utility stuff to make it easy to use them), PLUS 8K of RAM that you can
use ANY WAY YOU WANT. *Want more??* OK, the cartridges also contain miniature
(watch) batteries that keep continuous power on to the RAM so that whatever
you store in RAM will be preserved, even with the cartridge sitting on
the dashboard of you Aston-Martin for at least one year (calc's suggest
up to 5 years)! If you use both carts together, you have 16K of "EPROM-like
memory." The A: cart WILL work on the new XL series computers. As mentioned
the RAM area works just like computer memory: using the built-in (ROM)
utility menu, you can simply(and quickly) erase it and write new data to
it. From BASIC just type: SAVE "B:" or LIST "B:" or ENTER "B:" or LOAD "B:"
or RUN "B:". You can also easily copy a binary file from disk to cart and
leave it there and activate it under another program's control later, or
using the utility menu convert it to auto-run mode so that the cart will
now autoboot and run when power is turned on (just like the game, etc.
carts we all use)!! You can use it to store and retrieve data (like a disk
but FASTER!). You can even modify a program in the cart while it is run-
ing!!!   I've had them 1 week and keep thinking of more uses! Come back
next month for more information. Made by: MICROSOTA, Inc., P.O. Box 728,
Hibbing, Minnesota 55746; (218) 262-6691.

THE HOME ACCOUNTANT

by Dick Reaser

I just thought I would express my veiws as a "user and abuser".

I am very pleased with the program. It is very powerful and does everything that I need. I have been evaluating "Home Finance" programs for the past few years starting with the ATARI Personal Financial Management System in 1981. Most of them just turn out to be glorified check book registers.

Here's what I like about The Home Accountant:

1) It handles assets & liabilities other than checking accounts and credit cards. You can have capital assets such as home, stock, personal property etc. You are therefore able to produce a complete net worth statement.

2) You can put in a budget month by month rather than just using an average for the year. You can even use the actuals from the previous year for the next year's budget.

3) It will print out your actual checks for you (you still have to sign them). The check forms are available from 3 or 4 sources.

4) Automatic transactions (like deposits or regular automatic payments) that happen each month are allowed so that you only have to enter them once for the entire year instead of every month.

5) It is a "Smart Mind Reader". Make that "Smart and a Mind Reader", I don't want to appear too egotistical. It is designed for the lazy person, like me, who doesn't like to type. If you set it up right, all you do is type in the first letter or two of the account or the payee of a check and the program will fill in the rest of the name. eg. Beverly Hills Federal Savings and Loan Association from only "B" or "Be" instead of BHS&L that you might use if you had to write or type each check by hand. This feature alone is worth its weight in GOLD to me.

6) The C-Itoh Daisy-wheel printer works with the program.

7) The manual is very well written in most places and easy to follow. It's a little "dim" when it comes to the the area of splitting of transactions although there is a nice table which purports to be self explanatory. However, Continental Software is only a local phone call away and they are very helpful.

Here are some additional points to consider:

1) It works a lot faster with 2 disk drives instead of one. (Program in one, data disk in the other).

2) Some banks like to have their checks pre-numbered so that the "Microline" at the bottom contains the check number for ease of processing. The problem with this is that: a) The program wants to print the check number on the check (the program can be altered to not print the check number). b)For tractor feed, you tend to lose the first check since it extends beyond the printhead in order to engage the teeth. You need to have some kind of "leader" on the checks to get started.

3) There are rumors that they may interface the program with "The Tax Advantage" some day which could save even more typing.

4) It could be set up to handle a club, church or small business.

At last!! My two year search is at an end.

Information collected by Alan Haskell

from various sources.

CARTRIDGE SWITCHES

BY HOWARD SIEBENROCK

AS YOU KNOW, WHEN YOU PLUG A ROM CARTRIDGE INTO THE LEFT SLOT OF YOUR ATARI 800 COMPUTER, YOU DISABLE THE TOP 8K OF RAM. THIS IS DONE BY DISABLING ONE INPUT OF AN OR GATE (Z102B) THAT NORMALLY PASSES THE ADDRESS LINES A15 AND A14, DECODED BY CHIP Z101 TO BE S5, TO THE RAM SLOTS. THE S5 SIGNAL IS WIRED TO THE LEFT CARTRIDGE SLOT, PIN 12, TO ENABLE THE ROM CHIPS IN THE CARTRIDGE. PIN 14 OF THE CARTRIDGE IS CONNECTED INSIDE TO THE +5 VOLT LINE. WHEN THE CARTRIDGE IS INSERTED INTO THE LEFT SLOT THIS +5 VOLTS IS THEN CONNECTED TO THE Z102B OR GATE TO DISABLE THE S5 SIGNAL TO THE RAM SLOTS. THE S5 SIGNAL IS THE ADDRESS FOR 40K TO 48K OF RAM.

THE RIGHT CARTRIDGE DOES THE SAME THING, EXCEPT IT USED A15 AND A13, DECODED BY Z101 AS S4, FOR IT'S ENABLE LINE. PIN 14, THE +5 VOLT SIGNAL, OF THE RIGHT CARTRIDGE, DISABLES S4 TO THE RAM SLOTS WITH OR GATE Z102A. THE S4 SIGNAL IS THE ADDRESS FOR 32K TO 40K OF THE RAM.

IF, WHILE THE CARTRIDGE IS INSERTED, THE +5 VOLT SIGNAL TO THE OR GATE COULD BE OPENED, THE RAM WOULD THEN BE ENABLED. IF THE S5 LINE TO THE LEFT CARTRIDGE IS ALSO OPENED, THE CARTRIDGE CHIPS DATA OUTPUT WOULD BE TRI-STATED. (TRI-STATED IS A THIRD BINARY OUTPUT STATE FOR DIGITAL CHIPS. IT IS A HIGH IMPEDANCE STATE THAT ELECTRONICALLY DISCONECTS THE CHIP FROM THE DATA BUSS).

SINCE THE ADDRESS LINES, A0 TO A12, ARE INPUTS, THEY CAN BE LEFT ON THE BUSS. BY USING A SWITCH, MOUNTED ON THE CASE, THE PROGRAMER CAN SELECT IF RAM OR THE CARTRIDGE ROM IS ON THE DATA BUSS. A SECOND SWITCH WILL DO THE SAME FOR THE RIGHT CARTRIDGE ROM.

IF THE S5 ENABLE LINE, NORMALLY GOING TO THE LEFT SLOT, IS SWITCHED TO THE RIGHT SLOT, THE RIGHT CARTRIDGE WILL BE ADDRESSED AS A LEFT CARTRIDGE. YOU ALSO HAVE TO SWITCH THE +5 VOLT SIGNAL FROM THE RIGHT CARTRIDGE TO THE Z102B GATE TO TURN OFF THE 40K TO 48K RAM.

I MUST WARN YOU. IF YOUR COMPUTER IS UNDER WARRANTY, DON'T MODIFY IT!

THE PARTS NEEDED ARE TWO MINATURE TOGGLE SWITCHES. BOTH ARE DOUBLE POLE, DOUBLE THROW, ONE IS A TWO POSISTION (ON-ON), AND THE OTHER IS A THREE POSISTION (ON-OFF-ON) SWITCH. A TWO FOOT LENGTH OF EIGNT CONDUCTOR RIBBON CABLE (UNLESS YOU PLANED AHEAD AND PUT IN A TEN CONDUCTOR RIBBON CABLE WITH THE RESET MODIFICATION LAST TIME) AND 10-12 INCH LENGTHS OF SMALL INSULATED WIRE.

ONCE YOU HAVE THE PARTS AND TOOLS, PROCEED TO DISEMBLE THE COMPUTER TO THE MOTHER BOARD. DON'T FORGET THE CMOS HANDLING CAUTION!

THE FIRST STEP IS TO DRILL A HOLE NEAR THE CENTER OF THE BOARD (SEE FIGURES 7 AND 8 FOR THE EXACT LOCATION) FOR TWO SMALL WIRES TO PASS THROUGH FROM THE TOP TO THE BOTTOM OF THE BOARD. BE CAREFUL NOT TO DRILL NEAR OR THROUGH ANY CIRCUIT RUNS. HOLD THE MOTHER BOARD UP TO A STRONG LIGHT TO BE ABLE TO SEE THE RUNS ON THE BOTTOM OF THE BOARD AND MARK THE LOCATION WITH A FELT PEN.

CUT THE FIVE RUNS BY MAKING TWO CUTS ACROSS THE RUN ABOUT 1/16 INCH APART. THEN HEAT THE 1/16 PIECE WITH A SOLDERING IRON UNTIL IT LIFTS OFF THE BOARD.

1) FROM R109 TO LEFT CARTRIDGE PIN 14.
2) FROM FEED THROUGH TO LEFT CARTRIDGE PIN 12.
3) FROM Z102 PIN 4 TO LEFT CARTRIDGE PIN A.
4) FROM Z102 PIN 5 TO FEED THROUGH.
5) FROM Z101 PIN 5 TO FEED THROUGH.

NEXT, RUN AN INSULATED JUMPER FROM Z102 PIN 5 TO Z101 PIN 5. SCRAPE THE SOLDER MASK FROM THE RUN JUST ABOVE WHERE YOU MADE THE CUTS AND SOLDER THE JUMPER TO THE RUN. BE CAREFUL WITH THE SOLDEING IRON. REMEMBER HOW EASY IT WAS TO REMOVE THE 1/16 INCH CUT OUT PIECE? CHECK YOUR WORK CAREFULLY AS YOU GO TO BE SURE THE WIRES ARE SOLDERED GOOD AND THERE ARE NO SOLDER BRIDGES BETWEEN RUNS.

NEXT, MOUNT THE CONNECTOR IN THE LOWER RIGHT COURNER OF THE MOTHER BOARD, IF YOU DID NOT DO SO LAST TIME.

NOW RUN EIGHT WIRES (I USED SMALL, SOLID, INSULATED TELEPHONE WIRE) FROM THE CUT CIRCUIT RUNS TO THE CONNECTOR AS FOLLOWS.

1) FROM R108 ON THE TOP THROUGH THE HOLE TO
   CONNECTOR PIN 5 ON THE BOTTOM.
2) FROM Z101 PIN 5 ON THE TOP THROUGH THE HOLE TO
   CONNECTOR PIN 6.

3) FROM LEFT CARTRIDGE CONNECTOR PIN 1 TO
   CONNECTOR PIN 7.
4) FROM LEFT CARTRIDGE CONNECTOR PIN A TO
   CONNECTOR PIN 8.
5) FROM LEFT CARTRIDGE CONNECTOR PIN 12 TO
   CONNECTOR PIN 3.
6) FROM LEFT CARTRIDGE CONNECTOR PIN 14 TO
   CONNECTOR PIN 4.
7) FROM R109 SOLDER PAD TO CONNECTOR PIN 1.
8) FROM Z102 PIN 2 (AT THE FEED THROUGH) TO PIN 2.

NOW DRILL TWO HOLES AND MOUNT THE CARTRIDGE SELECT SWITCHES ON THE LEFT OF THE CASE TOP. BE SURE THE CENTER OFF SWITCH IS TO THE LEFT WHEN VIEWED FROM THE TOP.
THE EIGHT WIRES FROM THE CONNECTOR PLUG WILL NOW BE CONNECTED TO NNECTOR PLUG LAST MONTH, YOU REMEMBER
THAT THE ORDER OF THE WIRES TO THE CONNECTOR PLUG WAS NOT SPECIFIED.
ABOVE EACH WIRE WRITE IN THE COLOR OF THE WIRE YOU HAVE COMING FROM THE CONNECTOR PLUG.

SOLDER THE TWO JUMPERS FROM THE RIGHT SWITCH TO THE LEFT SWITCH. BE URE THEY ARE INSTALLED AS SHOWN. I USED HEAT SHRINK TUBING ON ALL SWITCH NNECTIONS TO BE SURE THERE ARE NO STRAY WIRES TO CAUSE SHORTS. CONNECT THE EIGHT WIRES FROM THE CONNECTOR PLUG TO THE CARTRIDGE SELECT SWITCHES AS SHOWN. THEN TRACE EACH WIRE TO BE SURE THEY ARE CONNECTED PROPERLY!

NOW IS THE TIME TO CHECK ALL OF YOUR WORK CAREFULLY TO BE SURE THERE ARE NO SHORTS OR SOLDER BRIDGES OR FRAYED WIRES ANY WHERE, AND THAT ALL CONNECTIONS ARE PROPER!

REASSEMBLE YOUR COMPUTER AND CABLE IT TO YOUR SYSTEM. INSTULL THE BASIC CARTRIDGE IN THE LEFT SLOT AND SET BOTH SWITCHES ON (UP). LEAVE THE DISK DRIVE OFF AND POWER UP. YOU SHOULD SEE THE FAMILIAR READY PROMPT ON THE SCREEN. IF YOU DON'T THEN CHECK THAT BOTH SWITCHES ARE ON (UP). IF THEY ARE. THEN YOU HAVE A MISTAKE IN YOUR WIRING. YOU WILL HAVE TO DISEMBLE THE COMPUTER AND CHECK THE WIRING AGAIN. BE SURE TO CHECK WHICH PIN YOU USED AS #1 ON THE NEW CONNECTOR.

IF AT FIRST YOU GOT THE READY PROMPT THEN FLIP THE LEFT SWITCH TO THE OFF (CENTER) POSITION AND DO A COLD RESET. YOU SHOULD NOW HAVE THE MEMO PAD TITLE. FLIP THE LEFT SWITCH DOWN (RIGHT CARTRIDGE POSITION) AND DO A COLD RESET. YOU SHOULD STILL HAVE THE MEMO PAD TITLE.

FLIP BOTH SWITCHES ON (UP), AND DO A COLD RESET. YOU SHOULD HAVE THE BASIC READY PROMPT. IN DIRECT MODE EXICUTE THE FOLLOWING COMMAND. ? FRE(O). THE NUMBER YOU SEE PRINTED IS THE AMOUNT OF FREE RAM YOU HAVE. MAKE A NOTE OF THIS NUMBER THEN INSTALL ANOTHER CARTRIDGE IN THE RIGHT SLOT. WITH BOTH SWITCHES ON (UP) YOU SHOULD GET THE BASIC READY PROMPT. EXECUTE THE ? FRE(O) COMMAND AGAIN AND COMPARE THE NUMBER PRINTED ON THE SCREEN WITH THE NUMBER YOU GOT BEFORE. IT SHOULD BE 8192 LESS. THIS IS BECAUSE THE CARTRIDGE IN THE RIGHT SLOT DESELECTED 8K OF RAM. FLIP THE RIGHT SWITCH OFF AND DO A COLD RESET THEN EXICUTE THE COMMAND ? FRE(O) AGAIN. YOU SHOULD GET THE ORIGINAL NUMBER ON THE SCREEN, BECAUSE THE RIGHT CARTRIDGE HAS BEEN ELECTRONICLY REMOVED FROM THE BUSS.

FLIP THE LEFT SWITCH OFF (CENTER POSITION) AND DO A COLD RESET. YOU SHOULD NOW HAVE THE MEMO PAD TITLE. FLIP THE LEFT SWITCH TO RIGHT (ALL THE WAY DOWN) AND DO A COLD RESET AND YOU SHOULD SEE A SCREEN APPROPRIATE TO THE CARTRIDGE YOU HAVE IN THE RIGHT SLOT.

FLIP THE LEFT SWITCH ON AND THE RIGHT SWITCH OFF AND TURN ON THE DISK DRIVE. WHEN THE BUSY LIGHT GOES OUT INSERT A DISKETTE WITH DOS ON IT AND DO A COLD RESET. THE SCREEN SHOULD HAVE THE BASIC READY PROMPT, OR WHAT EVER IS APPROPRIATE FOR THE SOFTWARE ON YOUR DISKETTE. FLIP THE LEFT SWITCH OFF (CENTER POSISTION) AND DO A COLD RESET. THE DISK SHOULD REBOOT AND COME UP WITH THE DOS MENU.

I COULD GO ON WITH MANY DIFFERENT USES FOR THE CARTRIDGE SWITCHES AND THE COLD RESET SWITCH, BUT I THINK YOU GET THE IDEA. ONE LAST IDEA. IF YOU HAVE A CARTRIDGE TO DISK COPIER, YOU CAN FORGET JAMMING THE COVER SWITCH AND INSERTING THE CARTRIDGE TO BE COPIED IN THE RIGHT SLOT WITH THE POWER ON. JUST INSERT THE CARTRIDGE IN THE RIGHT SLOT AND FLIP THE RIGHT CARTRIDGE SWITCH OFF AND CLOSE THE COVER. WHEN THE SOFTWARE INSTRUCTS YOU TO INSERT THE CARTRIDGE, JUST FLIP THE RIGHT SWITCH ON.

I HOPE YOU HAVE ENJOYED THESE ARTICLES, EVEN IF YOU DON'T ATTEMPT TO DO THEM. IF YOU HAVE ANY COMMENTS OR SUGGESTIONS, FELL FREE TO WRITE TO ME.

HOWARD SIEBENROCK
9309 W. 98 COURT.
WESTMINSTER, COLORADO   80020

CPU SLOT

RAM SLOT

RAM SLOT

RAM SLOT

10 K OS

R109   R108

Z102   Z101

LEFT ROM SLOT

RIGHT ROM SLOT
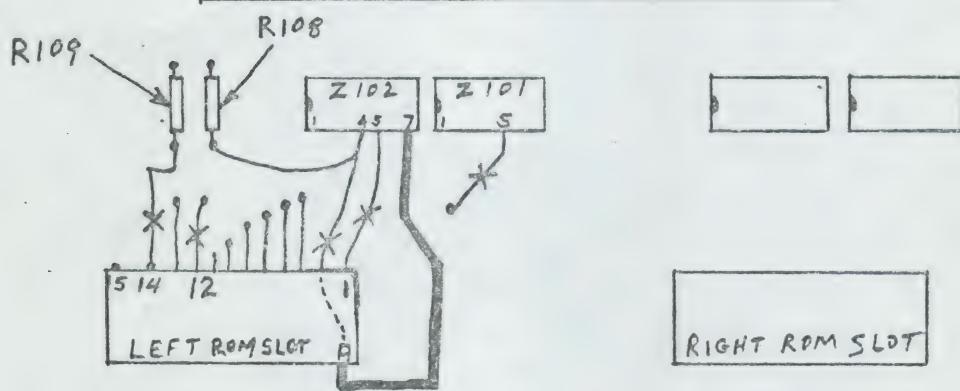
800 MOTHER BOARD
(TOP SIDE)

NOTE: MAKE ALL ETCH CUTS ON THIS SIDE.
X DENOTES ETCH CUT. (5)

ADD ALL NEW WIRES ON BACK SIDE.

ADD WIRE Z102 PIN 5 TO Z101 PIN 5
ON ETCH SIDE.

WRITE ENABLE/PROTECT SWITCH
by Alan Haskell

Have you ever wanted to use the other side of your diskettes? O.K., so you carefully measure and mark your diskette, drag out the paper punch and punch the other edge of the diskette.

Have you ever wanted to protect a diskette, but can't seem to find a write protect tab?

Well for about $6.00 in parts and about 1 hour of your time, you can install a switch into your Atari 810 disk drive that will allow you to write on both sides of your diskette without punching it! This switch will also allow you to protect any diskette without using a write protect tab.

This Modification can be installed in both old and new model 810 drives.

I must warn you, if your disk drive is still under warranty, DO NOT INSTALL THIS MOD!

For a visual indication of the drive status, I installed two LED's on the drive face plate, one yellow one and one green one. Yellow indicates caution. (the disk can be written on) The green one indicates write protect. (the disk data is safe)

I mounted a two position toggle switch where the Atari logo plate is. (the logo plate is a metal sticker that can be peeled off and stuck elsewhere on the drive face plate.

See attached schematic for parts list and installation instructions.

WRITE ENABLE/PROTECT SWITCH
INSTALLATION INSTRUCTIONS

1. Remove the 810 disk drive from the system by unplugging all cables.

2. Remove the four plastic hole covers on the top of the drive case with a small thin knife.

3. Unscrew the four phillips head screws and remove the case top.

4. Note the relationship of the face plate to the front edge of the side board and mark it's location on the back side of the face plate with a pencil.

5. Remove the five phillips head screws that secure the drive mechanics to the bottom half of the case.

6. Remove the face plate. This item will be modified.

7. Set the rest of the drive off to the side for the time being.

8. Remove the metal Atari logo sticker and stick it elsewhere on the face plate.

9. Drill a hole for the switch near where the sticker was. (be sure that the switch will not interfere with the side board when everything is back together)

10. Drill 2 holes for the LED's. Locate holes to the left of the existing power on and busy holes. (These holes will probably be 1/4" Dia. if using LED SNAP MOUNT holders.

11. Install SNAP MOUNTS in the two holes.

12. Snap in LED's. Yellow in the upper hole and green in the lower hole. (Note which lead on the LED's go to the flat side)

13. Install the toggle switch.

14. Wire up the LED's and switch as per attatched schematics. Leave the 3 wires that extend from the face plate about a foot long.

15. Re-install the face plate and drive mechanics.

16. Lay the three wires between the drive mechanics and the metal shield on the side board, to the rear of the drive.

17. Bring the wiring the the back side of J101.

18. Solder the 3 wires to J101. Pins 1,2 & 5. (refer to schematic)

19. On new style 810's (3 wires in J101) Remove plug P101 from the side board. Lay the plug where it won't interfere with drive operation.

20. On older style 810's (with 5 wires in J101) remove pin 2 from plug J101 only (red wire) only. This can be done by poking a sharp tool on the pin locking tab and gently pulling the wire.

21. This completes the installation.

CHECKOUT

1. Plug a power pack into the drive and turn it on.

2. With the toggle switch in the up position (write enable) the top yellow LED should on. Turn the switch down (write protect) the green LED should be on. If this doesn't happen, turn the drive off and check all wiring and that the LED's are installed correctly.

810 DISK DRIVE
WRITE ENABLE / PROTECT SWITCH

METAL SHIELD
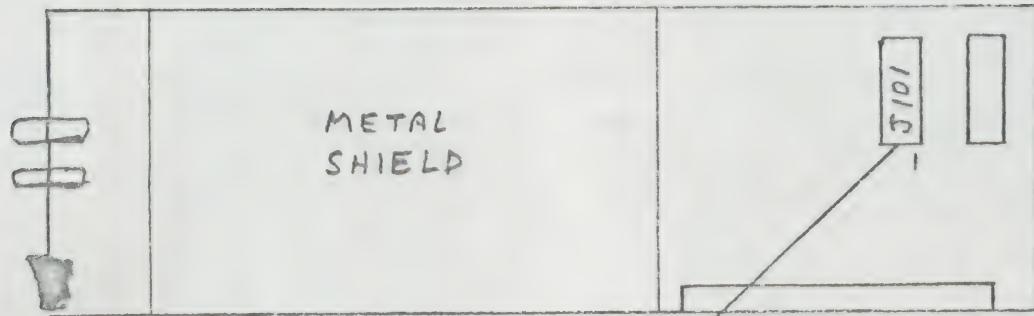
J101

YELLOW LED ON = WRITE ENABLE

GREEN LED ON = WRITE PROTECT

5 GND
4
3
RED 2 +5V
1 WRITE ENABLE SIGNAL TO LOGIC

J101

YELLOW LED

130Ω

GREEN LED

130Ω

DRILL HOLES FOR SWITCH HERE

DRILL HOLES FOR LED'S HERE
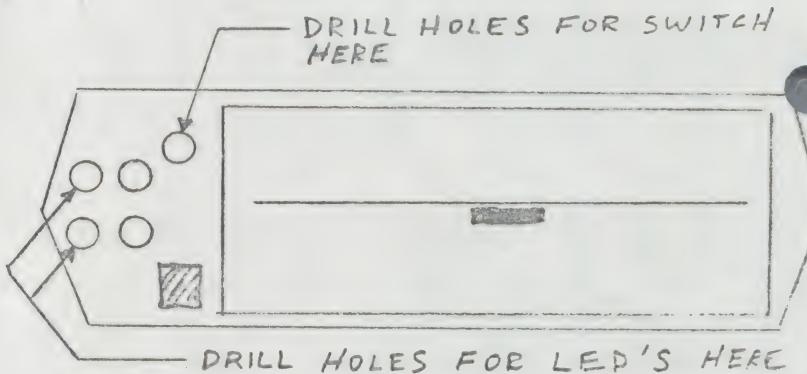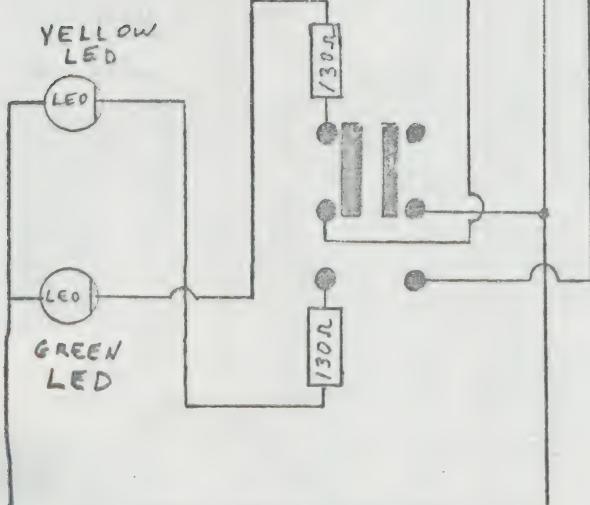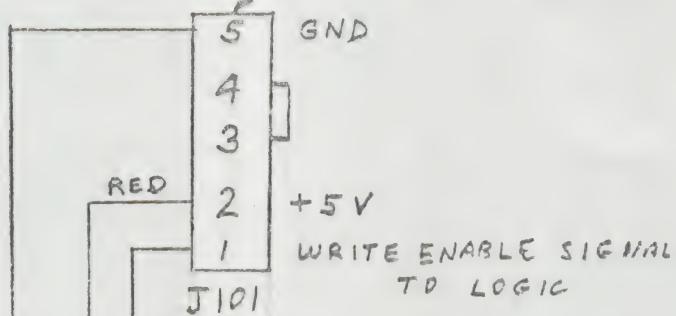
NOTE: ON NEW MODEL 810'S (WITH ONLY 3 WIRES IN J101) REMOVE PLUG -

ON OLDER 810'S (WITH 5 WIRES IN J101) REMOVE RED WIRE (PIN 2) ONLY.

PARTS LIST:

2 130Ω 1/4 WATT RESISTORS
1 DPDT SWITCH ON-ON
1 YELLOW LED
1 GREEN LED

3. If everything is O.K. so far, install the top cover
and put the drive back onto the system.

4. Bring up the system with DOS. Place the switch in the
up position (write enable) and try formatting a protected
disk. You should be able to do this.

5. Place the switch in the down position (write protect)
and try to format a notched disk. You should get an error
message because the disk is electronically protected.

6. I hope you have enjoyed this article, even if you don't
install it.

MAGAZINE LIBRARY

There are quite a few magazines in the library now. We have:
     Compute July, 1981 and February, 1983 to August, 1983
     Computers & Electronics May, June, August, October, November
     Today the Videotext Computer Magazine June, 1983, to November,
1983
     Personal Computing October, 1982 to November, 1983 (except
June, 1983)
     Popular Computing December, 1981 to December 1983
and a Basic Reference Manual.

If you want to borrow one of these magazines you can call me or send
me a postcard and I will bring that issue to the next SBACE meeting.
I have an answering machine on the 465 2364 number so you can call
at any time of the day or night.

                         Daniel Prince
                         5200 Marathon #207
                         Los Angeles Ca. 90038
                         (213)465 2364
                         (213)373 5435

       ~Also : ANTIC & HI RES in the store library.

The Tax Advantage
by
Dick Reaser
(213) 645-7063

This gem from Continental Software really gets my biased, whole-hearted approval. I have been doing my own taxes for years and, in spite of my annual resolution (on April 15) to get them done sooner, hate to get around to the job. Part of the problem has been that I hate to do arithmetic and then do it over and over each time I find some new deduction or other bit of data. Making the endless lists of categorized deductions etc. is a real chore for me too. Besides, hating to do math I also hate to do handwriting and I am a lousey typist to boot.

Last year, I had to use just about every form that the IRS prints (or so it seemed). Tax Advantage to the rescue!! Except for the Married couple both working, this program handled them all. With it's tremendous power of itemization for any category you want, you can really put your records in good shape at the last minute with this feature alone. Another feature that I really appreciate is that you don't have it input everything at one time. You can keep adding data and modifying it. The tireless computer just keeps doing the math so that you can find out how much taxes you owe, or how much refund you're going to get back at the touch of a key. This alone, gives you incentive to keep digging for more receipts to itemize. Income averaging is a snap. You just plug in the numbers. I don't know how the IRS can take just a few numbers and make you add, subtract, multiply in such a contorted manner as in income averaging but the computer goes through all those contortions without your help with no problem.

It does forms: 1040, A, B, C, D, E, G, SE, and 4562.

The hardware required is a 48K machine with a disk drive. An 850 interface with a printer helps. (It has standard setups for a variety of printers and you can also make up your own. It even worked with my daisy wheel C-Itoh). What really helps is to have a dual-disk drive as there is some disk swapping to do otherwise. This can be kept to a minimum if you organize your work a little.

The manual is very good and easy to follow.

I can hardly wait to get my 1983 tax year update and load in the data. Too bad they don't use the same data and allow you to do the State form along with the Federal.

List Assister
by
Dick Reaser

Once in a great while something comes along that really fills a
need. List Assister by Dana Noonan in Antic Magazine did just
that for me. I have a C-Itoh daisy wheel printer. It works
really great with Letter Perfect, Data Perfect, The Home
Accountant, The Tax Advantage and other such quality, third
party software.

It just hasn't done the right job for me when it came to
printing out listings of programs. What would usually happen
was that a lengthy line would print past the edge of the 8 1/2
wide paper and on accross the remaining part of the 15 inch
platten. If the line was even longer than that the letters
would just pile up on top of each other (no line feed or
carriage return). Of course, since the number of characters it
can print are limited to those on the "Daisy", it would just put
blank spaces instead. Sometimes, it would interpret a character
as a printer command and could roll off several inches of blank
paper. Another annoying problem was that it didn't know where
to end the page (even though the DIP switches are set for 11
inch page length. The net result was that it would print right
accross the perforation tear line.

List Assister flat out solves all those problems. It not only
knows when to end a page, it also numbers them. It lines up the
line numbers and if a lengthy line is encountered, it insets the
rest of the line. It also puts a line space in front of each
"REM" statement line. It clearly identifies the unprintable
characters as follows:

    | | = Inverse   [ ] = Control   < > = Control Inverse

Other unprintable characters are described in plain English
between brackets. eg: [TAB],[CLEAR] & [UP].

The program to be printed must have been "LISTed" to the disk.
A print out of the actual program is given as printed using the
program.

Try it, you'll like it. It really enhances the capability of
any printer.

References: July ANTIC, Vol2, #4, page 83 and September ANTIC,
Vol2, #6, page 10.

```
       | | = Inverse          [ ] = Control        < > = Control Inverse


   5   REM ANTIC VOL2 #4 PAGE 93 08/17/83

   6   REM ANTIC VOL2 #6 PAGE 10 10/07/83 MOD BY DICK REASER

  10   REM * PROGRAM LISTER  *

  20   REM * BY DANA NOONAN  *

  30   REM * COPYRIGHT 1982  *

  40   REM SET-UP PROGRAM
  50   DIM A$(500),F$(15),B$(20),R$(4),L$(12),Y$(1),D$(20),S$(30)
  60   B$="               ":R$="REM"
  70   OPEN #2,4,0,"K:":GOSUB 650
  80   CLOSE #2:PK=PEEK(559):POKE 559,0
  90   TRAP 720:OPEN #1,4,0,F$:OPEN #4,8,0,"P:":INPUT #1;A$
 100   ? #4;CHR$(T);B$;F$;B$(7);"Page ";PG;B$(7);S$;B$(7);D$:? #4:? #4
 110   ? #4;B$;"| | = Inverse";B$(7);"[ ] = Control";B$(7);"< > = Control
       Inverse":? #4:L=5:PG=PG+1:GOTO 140

 120   REM GET DATA
 130   TRAP 720:INPUT #1,A$
 140   C=LEN(A$):RF=0:QF=0:S=0:LL=65*(T=18)+120*(T=15)

 150   REM CHECK REMS, QUOTES, AND LINE NUMBERS
 160   FOR I=1 TO C:A=ASC(A$(I,I))
 170   IF A=34 OR A>159 THEN QF=1:GOTO 190
 180   NEXT I
 190   FOR N=2 TO 6:IF ASC(A$(N))<>32 THEN NEXT N
 200   IF A$(N+1,N+3)<>R$ THEN RF=1
 210   IF RF=0 THEN ? #4:L=L+1
 220   S=6-N:? #4;B$(12-S);"[LEFT]";A$(1,N);" ";:N=N+1
 230   IF QF=0 AND C<LL THEN ? #4;A$(N):GOTO 590

 240   REM CHECK ASC VALUE
 250   II=N:FOR I=N TO C:A=ASC(A$(I,I)):II=II+1
 295   IF II>(LL+7) THEN ? #4;CHR$(155);B$(5);:L=L+1:LL=LL+65*(T=18)+120*(
       T=15)
 300   IF A>31 AND A<125 THEN 560
 310   IF A>159 AND A<254 THEN 490
 320   IF A>127 AND A<155 THEN 430
 330   IF A<27 THEN 460
 340   RESTORE
 350   READ D,DL,L$
 360   IF D<>A THEN GOTO 350
 365   IF (II+DL)>(LL+7) THEN ? #4;CHR$(155);B$(5);:L=L+1:LL=LL+65*(T=18)+
       120*(T=15)
 370   ? #4;"[";L$;"]";:II=II+DL:NEXT I
 380   DATA 27,8,ESCAPE,28,4,UP,29,6,DOWN,30,6,LEFT,31,7,RIGHT
 390   DATA 125,7,CLEAR,126,10,BACK SPACE,127,5,TAB
 400   DATA 156,13,DELETE LINE,157,13,INSERT LINE,158,11,CLEAR TAB,159,9,S
       ET TAB
 410   DATA 253,6,BELL,254,8,DELETE,255,8,INSERT

 420   REM INVERSE CONTROL CHARACTERS
```

```
430    IF A=128 THEN ? #4;"<,>";:II=II+3:NEXT I
440    A=A-64:? #4;"<";CHR$(A);">";:II=II+2:NEXT I

450    REM CONTROL CHARACTERS
460    IF A=0 THEN ? #4;"[,]";:II=II+3:NEXT I
470    A=A+64:? #4;"[";CHR$(A);"]";:II=II+2:NEXT I

480    REM INVERSE NORMAL CHARACTERS
490    IF A=253 THEN ? #4;"<;>";:II=II+3:NEXT I
500    A=A-128:? #4;"|";CHR$(A);:II=II+2
510    TRAP 540:I=I+1:II=II+1:A=ASC(A$(I,I)):IF II>(LL+7) THEN ? #4;CHR$(1
       55);B$(5);:L=L+1:LL=LL+65*(T=18)+120*(T=15)
520    IF A>159 AND A<253 THEN A=A-128:? #4;CHR$(A);:GOTO 510
530    ? #4;"|";:II=II+1:GOTO 295
540    TRAP 830:? #4;"|";:? #4:L=L+1:GOTO 590

550    REM PRINT LINE AND GET NEXT ONE
560    IF A=96 THEN ? #4;"[.]";:II=II+2:NEXT I
570    IF A=123 THEN ? #4;"[;]";:II=II+2:NEXT I
580    ? #4;CHR$(A);:NEXT I:? #4
590    L=L+1:IF L<60 THEN GOTO 130
600    FOR NN=1 TO 6-(L-60):? #4:NEXT NN
610    ? #4;B$;F$;B$(7);"Page ";PG:? #4:? #4:PG=PG+1:L=3:GOTO 130

620    REM END
630    ? #4:POKE 559,PK:GRAPHICS 0:POSITION 12,8:? "COPY COMPLETE":CLOSE #
       1:CLOSE #4:CLR :END

640    REM TITLE
650    GRAPHICS 0:? :? "[TAB]      |PROGRAM  LISTER|"
660    ? :? :? "   ENTER FILE NAME:";:INPUT F$
665    IF F$(2,2)<>":" AND F$(3,3)<>":" THEN D$(1,2)="D:":D$(3)=F$:F$=D$:D
       $(1)=" ":D$(20)="   ":D$(2)=D$
670    ? :? "    DATE";:INPUT D$
680    ? :? "    SOURCE";:INPUT S$
690    ? :? "    CONDENSED PRINT (Y or N)";:INPUT Y$:IF Y$<>"Y" AND Y$<>"N"
       THEN ? "[UP][UP][UP][UP]":GOTO 690
700    IF Y$="Y" THEN T=15:LL=120:PG=1:RETURN
710    IF Y$="N" THEN T=18:LL=65:PG=1:RETURN

720    REM ERROR TRAPPING
730    IF PEEK(195)=136 THEN 620
740    TRAP 830:CLOSE #1:CLOSE #4:POKE 559,PK:OPEN #2,4,0,"K:"
750    IF PEEK(195)=170 THEN 790
760    IF PEEK(195)=138 THEN 810
770    ? "[CLEAR]":POSITION 7,10:? "CANNOT PRINT THIS LISTING"
780    POSITION 7,12:? "PRESS RETURN TO TRY AGAIN":GET #2,Q:CLR :RUN
790    IF PEEK(195)=170 THEN ? "[CLEAR]":POSITION 10,10:? "NO FILE BY THA
       T NAME"
800    POSITION 7,12:? "PRESS RETURN TO TRY AGAIN":GET #2,Q:CLR :RUN
810    ? "[CLEAR]":POSITION 5,10:? "CHECK PRINTER AND PRESS RETURN":GET #
       2,Q:GOTO 80
820    ? #4;">";:LN=LN-1:GOTO 300
```